



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,817	03/29/2005	Stijn Hermannus Wilhelmus Ossevoort	62780.000003	7001

21967 7590 10/17/2006

HUNTON & WILLIAMS LLP
INTELLECTUAL PROPERTY DEPARTMENT
1900 K STREET, N.W.
SUITE 1200
WASHINGTON, DC 20006-1109

EXAMINER

SHERMAN, STEPHEN G

ART UNIT PAPER NUMBER

2629

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/500,817	Applicant(s) OSSEVOORT ET AL.	
	Examiner Stephen G. Sherman	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities:

The claim states: "wherein adjacent circuits are connected in such a way that, when the sensor of one circuit detects the presence of the object touching or adjacent to the surface one circuit, at least one adjacent circuit causes its light source to be illuminated," however, the claim should read "wherein adjacent circuits are connected in such a way that, when the sensor of one circuit detects the presence of the object touching or adjacent to the surface **of the** one circuit, at least one adjacent circuit causes its light source to be illuminated." Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2629

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (GB 2 313 194 A) in view of Starniri (US 5,099,402).

Regarding claim 1, Allen discloses an illuminating surface that, when connected to a power source, emits light in the presence of an object touching or in close proximity to the surface (Figure 2), which surface comprises:

an array of sensors for detecting the presence of the object (Figure 2 and page 5, 3rd paragraph explains that the array consists of 64 sensors each with a single or multicolor light associated with it.);

an array of light sources, each sensor being associated with at least one light source such that, when one of said sensors detects the presence of the object, its associated light source is illuminated (Figure 2 and page 5, 3rd paragraph explains that the array consists of 64 sensors each with a single or multicolor light associated with it, and page 4, 2nd paragraph explains that when a particular sensor detects hand's presence that the associated light source will illuminate based on the detection.); and

wherein each of the sensors is connected with at least one adjacent light source that is illuminated when the sensor detects the presence of an object, thereby causing an area of the surface to emit light that corresponds to and is larger than the shape of the object (Figure 2 and page 5, 3rd paragraph explains that the array consists of 64 sensors each with a single or multicolor light associated with it and that figure shows that the sensor and light source are adjacent, and page 4, 2nd paragraph explains that when a particular sensor detects hand's presence that the associated light source will illuminate based on the detection, where if a person's finger were used the area of the surface illuminated would be larger than the finger.).

Allen fails to teach that the illuminating surface comprises a circuit for controlling the illumination of each light source such that it remains illuminated for a time after its associated sensor has ceased to detect the presence of the object.

Starniri discloses of an illuminating surface comprising a circuit for controlling the illumination of a plurality of light sources such that the light sources remain illuminated for a time after an associated sensor has ceased to detect the presence of the object (Column 5, line 66 to column 6, line 3 explain that the circuit located within the illuminating device shown in Figure 1 allows for an adjustable time delay for switching the lights off after contact has been terminated.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the timing delay taught by Starniri with the illuminating surface taught by Allen such that after the presence of the player has left the light source associated with the sensor activated remains on for a time afterwards in

order to allow for the continued recognition of which part of the illuminating surface has been contacted.

Regarding claim 2, Allen and Starniri disclose an illuminating surface as claimed in claim 1.

Allen also discloses an illuminating surface which includes an array of circuits, each circuit comprising at least one sensor and at least one light source (Figure 2 and page 5, 3rd paragraph explains that the array consists of 64 sensors each with a single or multicolor light associated with it.).

5. Claims 3-8 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (GB 2 313 194 A) in view of Starniri (US 5,099,402) and further in view of George (US 6,116,748).

Regarding claim 3, Allen and Starniri disclose an illuminating surface as claimed in claim 2

Allen and Starniri fail to teach wherein each circuit has its own power supply and is not under the control of a central processor for the surface.

George discloses of illuminating a surface where each circuit has its own power supply and is not under the control of a central processor for the surface (Figures 1 and 6 and column 3, lines 30-34 explain that the LEDs 46 of each circuit card 24 are

connected to a voltage source 64, thus each circuit of illuminating system 10 has its own voltage source and is not under the control of a central processor.).

Therefore it would have been obvious to “one of ordinary skill” in the art at the time the invention was made to use the teaching of George with the illuminating surface of Allen and Starniri such that each of the sensors and light sources would have their own power sources in order to allow that if one of the power sources failed all of the lights would not shut off, but only the light associated with that light source.

Regarding claim 4, Allen and Starniri disclose an illuminating surface as claimed in claim 3.

Starniri also discloses wherein adjacent circuits are connected in such a way that, when the sensor of one circuit detects the presence of the object touching or adjacent to the surface one circuit, at least one adjacent circuit causes its light source to be illuminated (Figure 1 and column 5, lines 60-67 explain that the lamps are switched on when the handrail is touched at any point, meaning that if the rail is touched near the first lamp the adjacent lamps turn on and if the handrail is contacted near the last lamp all of the lamps turn on, meaning that at least one adjacent circuit turns on.).

Regarding claim 5, Allen, Starniri and George disclose an illuminating surface as claimed in claim 4.

Starniri also discloses wherein the light source of the said at least one adjacent circuit is illuminated after a delay following the illumination of the light source of the said

detecting circuit, thereby giving the effect that the area of the surface that emits light in the presence of the object spreads (Column 5, line 66 to column 6, line 17 explain that the circuit located within the illuminating device shown in Figure 1 allows for an adjustable time delay for switching the lights on/off.).

Regarding claim 6, Allen, Starniri and George disclose an illuminating surface as claimed in claim 4.

Starniri also discloses wherein the light source of the said at least one adjacent circuit ceases to be illuminated prior to the light source of the said detecting circuit, thereby giving the effect that the area of the surface that emits light shrinks when the object is no longer touching or adjacent to the surface (Column 5, line 66 to column 6, line 17 explain that the circuit located within the illuminating device shown in Figure 1 allows for an adjustable time delay for switching the lights on/off.).

Regarding claim 7, Allen, Starniri and George disclose an illuminating surface as claimed in claim 4.

George also discloses wherein each detecting circuit is energisable from a power source when its sensor detects the presence of an object touching or in close proximity to the surface, thereby illuminating the light source of that circuit (Figures 1 and 6 and column 3, lines 30-34 explain that the LEDs 46 of each circuit card 24 are connected to a voltage source 64, therefore the light source is turned on when the circuit is energized from the power source.).

Regarding claim 8, Allen, Starniri and George disclose an illuminating surface as claimed in claim 7.

Starniri also discloses wherein current from the said detecting circuit leaks to at least one adjacent circuit, thereby energising the light source of the adjacent circuit (Figure 7 and column 6, line 43 to column 7, line 59 explain that when contact is detected the lamps 66 illuminated when the first lamp would allow current to pass through to the consecutive lamps.).

Regarding claim 12, Allen, Starniri and George disclose an illuminating surface as claimed in claim 4.

Allen also discloses wherein the sensors are switches that are closed by the object touching the surface (Page 5, 4th paragraph explains that Figure 3 shows a sensor construction in which a conductive wire makes contact with the paint and provides connection to the electronic circuits, i.e. the sensor is a switch.).

Regarding claim 13, Allen, Starniri and George disclose an illuminating surface as claimed in claim 4.

Allen also discloses an illuminating surface in the form of a floor or wall tile (Page 3, last paragraph states tat the surface could be used on a horizontal surface, i.e. a floor.).

Regarding claim 14, Allen, Starniri and George disclose an illuminating surface as claimed in claim 4.

Starniri also discloses an illuminating surface connected to a power source (Figure 7 shows the illuminating surface connected to 120 VAC.).

6. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allen (GB 2 313 194 A) in view of Starniri (US 5,099,402) and further in view of George (US 6,116,748) and Westerman et al. (US 2002/0015024).

Regarding claim 9, Allen, Starniri and George disclose an illuminating surface as claimed in claim 4.

Allen, Starniri and George fail to teach wherein each circuit comprises a transistor having a base terminal, the arrangement is such that the light source is illuminated when the transistor is conductive and wherein, when the sensor detects the object, the potential at the base terminal is changed, thereby causing the transistor to become conductive.

Westerman et al. also disclose a circuit comprising a transistor having a base terminal, the arrangement is such that the input is detected when the transistor is conductive and wherein, when a sensor detects an object, the potential at the base terminal is changed, thereby causing the transistor to become conductive (Figures 3A, 5A and 6 and paragraphs [0119]-[0120] and [0123] explain that when the proximity

sensor senses an object the transistor is conductive, thus facilitating the input detection.).

Therefore it would have been obvious to “one of ordinary skill” in the art at the time the invention was made to use the teaching of Westerman et al. with the illuminating surface taught by the combination of Allen, Starniri and George such that each circuit would have the particular configuration containing transistors activated by sensing the presence of a user to illuminate the light source in order to reduce wiring complexity while maintaining an accurate detection method for multiple inputs.

Regarding claim 10, Allen, Starniri, George and Westerman et al. disclose an illuminating surface as claimed in claim 9.

Westerman et al. also disclose wherein each circuit is connected to the base of the transistor of the at least one adjacent circuit, whereby potential from a detecting circuit is applied to the transistor base terminal of the adjacent circuit, thereby changing the potential of the adjacent circuit transistor base terminal, allowing current to flow through the transistor of the adjacent circuit (Figure 6 shows that each adjacent sensing circuit 47 is connected together in a column and a row, and if one touch sensor 47 is activated, the potential at one of the adjacent circuits in the row will be changed since the adjacent circuit would need to send the voltage to the sensing circuit 35.).

Regarding claim 11, Allen, Starniri, George and Westerman et al. disclose an illuminating surface as claimed in claim 10.

Westerman et al. also disclose wherein the detecting circuit is connected to the base of the transistor of the at least one adjacent circuit via a resistor such that the potential applied to the base of the transistor of the at least one adjacent circuit is less than the potential applied to the base of the transistor of the detecting circuit (Figure 6 shows that each adjacent sensing circuit 47 is connected together in a column and a row. Each of the elements in the matrix have their own resistive aspect to them and thus as a signal is sent down a scanning line the magnitude of the signal decreases with each circuit 47 which is passed, meaning that between each circuit 47 there is a resistance causing the signal to be less at adjacent circuits further down a row/column.).

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

10 October 2006

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read "Amr A. Awad", with a large, sweeping flourish at the end.